

Habitat Study Group Notes
Monday March 23, 2009
USFWS, 2800 Cottage Way, Conference Room A

Present: Steve Detwiler (USFWS), Fred Feyrer (USBR), Matt Nobriga (CDFG), Farhat Bajjaliya (CDFG), Bruce Herbold (USEPA), Ted Sommer (CDWR), Mike Chotkowski (USBR), Ryan Olah (USFWS)

Agenda:

- 1) Agenda Review
- 2) Brief review and comments on draft internal schedule
- 3) Brief review of charge
- 4) Review and expansion of conceptual model (Nobriga diagram)
- 5) Brainstorm on ideas to date to incorporate in study plan (see EET notes, Herbold notes, Feyrer et al. excerpt from framework draft...)

- The group discussed the role of the HSG. Does the HSG make recommendations to the Service? How to interface with IEP?

It was suggested that this group needed to make a technical recommendation on adaptive management (akin to the SWG for operations) for Service/Reclamation determination. As for interface with IEP, it was determined that between Bruce, Ted and Mike C., who are members of the IEP, we could provide adequate coordination.

- Discussed the issue that the HSG may be taking too narrow of an approach and that DWR supports the approach of exploring multiple factors in addition to flow.
- Majority of the group expressed the importance of following the clearly defined structure provided by the Biological Opinion and that it may be outside of the HSG's scope to incorporate additional issues facing the Delta, in that this would conflict with IEP coverage and responsibility in POD.
- Group discussed that HSG needs to come up with a conceptual model expressing how the Fall Action Concept within the Biological Opinion acts as a small piece of a larger, multi-tiered issue.
- Bruce and Fred presented general conceptual models expressing the cause and effect of variables on the action area (X2).

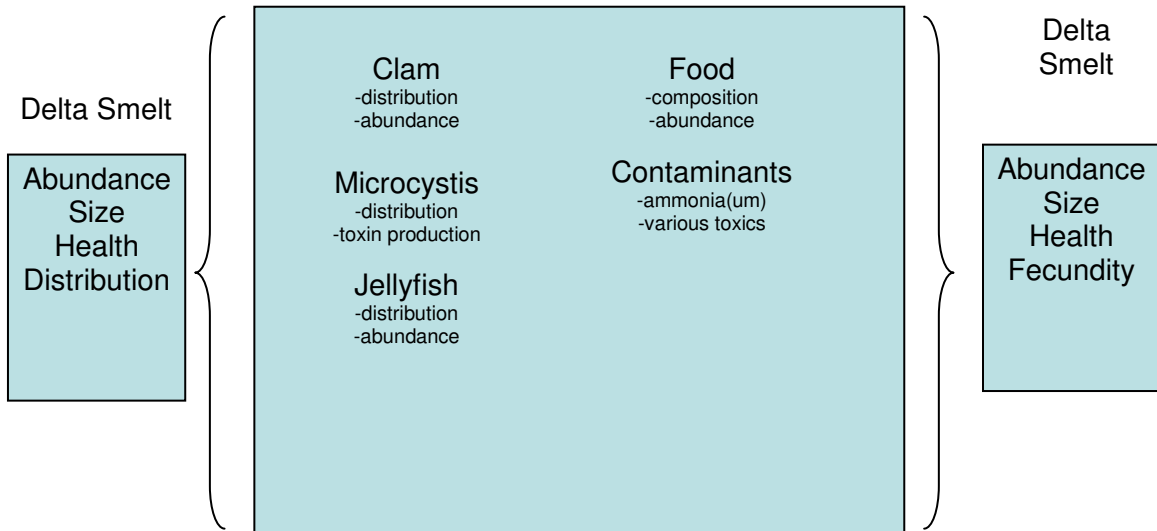
HERBOLD BLACKBOARD MODEL 1

Summer

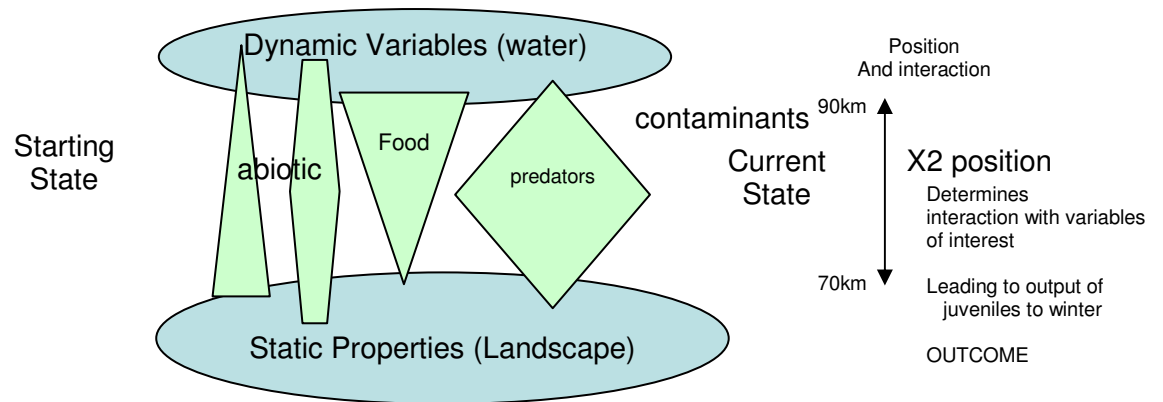
Fall

Winter

Changes in X2 affect: Maturation(?) and mortality

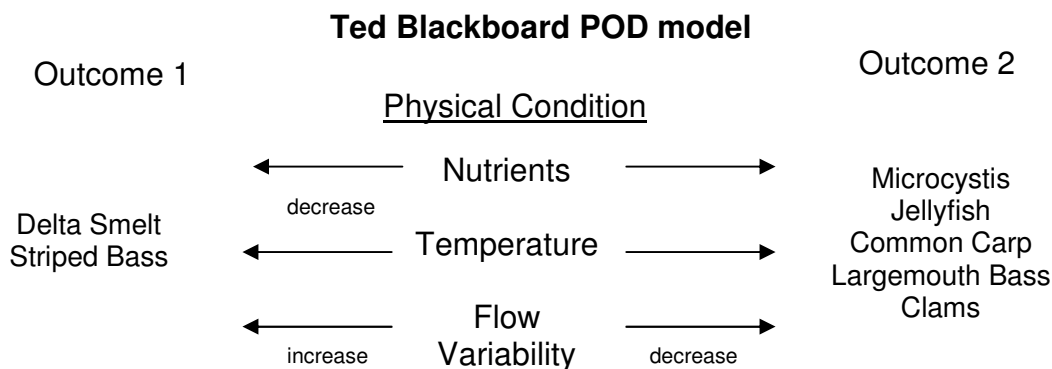


Feyrer Blackboard 1

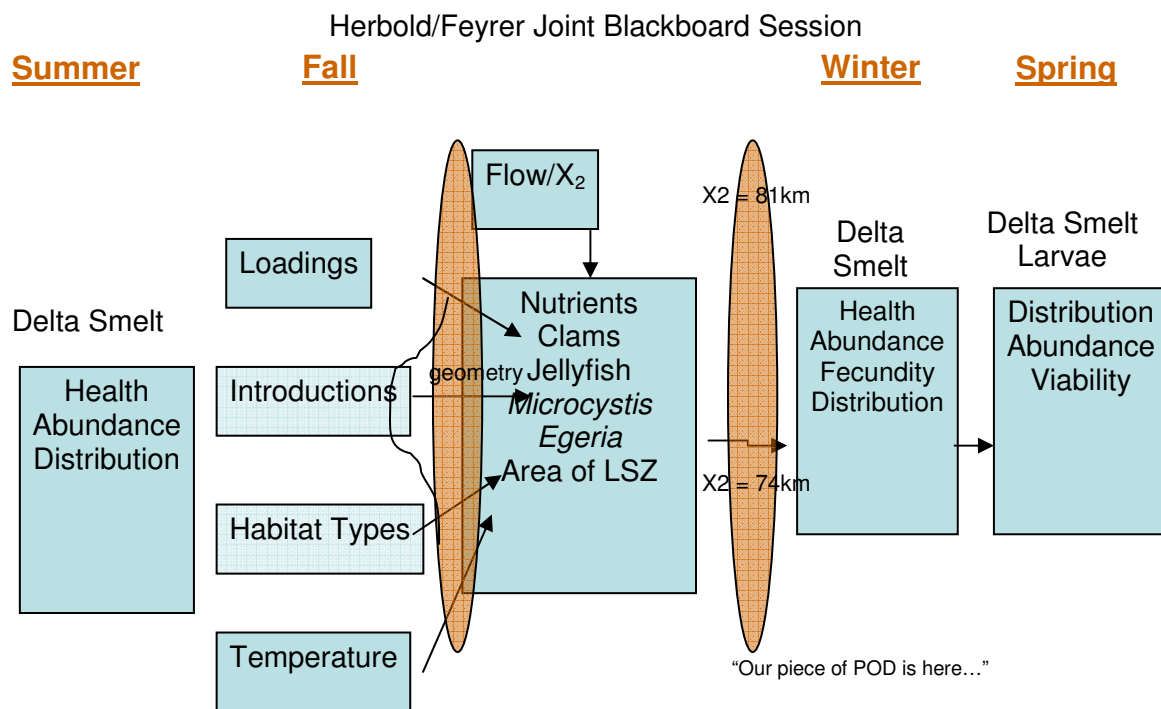


-From M. Peterson Miss. State

- Ted presented the POD model, and wondered how to interface the HSG with the current state of thinking in POD relative to slow state change reflecting years of interacting dynamic variables



The group discussed the “tipping point” paradigm and not all agreed that changes over the duration of the last century and a half are all created equal. In other words, magnitude of recent changes should not be discounted.



- HSG briefly discussed what suggestions would be made to FWS in the future:

- What studies are worth pursuing?
 - What conceptual models will be presented for peer-review?
 - What management conclusion and how implemented?
- HSG briefly discussed the importance of flow studies in regards to studying the effects of abnormally high flows (e.g. outflows in the 90s and smelt numbers).
 - Look at all mechanism of population level response, but also what can we do? See which variables change in the fall, pare down to important ones, then work out study design.
 - Contaminants hypothesis (dilution): Raises direct questions. Hydrodynamically, low to dilute efficiently ? What's a good flush? Identify which contaminants smelt are sensitive to, loading, how to source control? How to flush? When, etc. Look at historic data to backcheck our understanding in the concentration model and test hypotheses with that data.
 - Hysteresis—maybe with all the changes over time, culminating in the last few years, we've found a steady state so far towards, say *Egeria* that little flow adjustments won't change anything fundamentally important?
 - Location of retreat discussed-Davis, Watershed Center to get as much of workplan study design together as possible
 - Second week of April (Tuesday – Friday).
 - Finalize Conceptual model.
 - Brain storm possible studies.

No next meeting before face-to-face retreat in April. Will handle duties by email and perhaps a call tacked onto end of an SWG call.

ACTION ITEMS:

- 1) Steve will get a copy of Walter adaptive management paper to group
- 2) Ted will look at Wim's chart for all X2 interactions to check if we have covered our bases in the draft models so far.
- 3) Bruce will inquire with Peter Moyle to get us a room for the April retreat
- 4) Fred and Bruce will look at draft and merge their joint model with the state model better
- 5) Steve and Mike C. will get together and discuss how to do adaptive management
- 6) Fred will continue to work on logistics of May workshop
- 7) Steve will approach Anke and Wim for joining the group